IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: DONOVAN	)	Examiner: V. FORD (parent appl)
Serial No.: Pending	)	Group Art Unit: 1645 (parent appl)
Filed: Herewith	)	
For: TRANSDERMAL PATCH FOR BOTULINUM TOXIN ADMINISTRATION	)	Irvine, California

PRELIMINARY AMENDMENT

Mail Stop: Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Please amend the above-identified patent application as follows:

IN THE SPECIFICATION

1. Please amend page 1 of the specification as shown by page 5-6 of this preliminary amendment.

AMENDED PAGE ONE OF THE SPECIFICATION

TRANSDERMAL PATCH FOR BOTULINUM TOXIN ADMINISTRATION~~COMPOSITIONS~~

by

Stephen Donovan

CROSS REFERENCE

This application is a divisional of pending application serial number 10/194,805, filed July 11, 2002.

The present invention relates to pharmaceutical compositions containing neurotoxins. In particular, the present invention relates to compositions containing clostridial neurotoxins, such as botulinum toxin, for transdermal topical administration to patients.

BACKGROUND

Botulinum Toxin

The genus *Clostridium* has more than one hundred and twenty seven species, grouped according to their morphology and functions. The anaerobic, gram positive bacterium *Clostridium botulinum* produces a potent polypeptide neurotoxin, botulinum toxin, which causes a neuroparalytic illness in humans and animals referred to as botulism. The spores of *Clostridium botulinum* are found in soil and can grow in improperly sterilized and sealed food containers of home based canneries, which are the cause of many of the cases of botulism. The effects of botulism typically appear 18 to 36 hours after eating the foodstuffs infected with a *Clostridium botulinum* culture or spores. The botulinum toxin can apparently pass unattenuated through the lining of the gut and attack peripheral motor neurons. Symptoms of botulinum toxin intoxication can progress from

difficulty walking, swallowing, and speaking to paralysis of the respiratory muscles and death.

Botulinum toxin type A is the most lethal natural biological agent known to man. About 50 picograms of a commercially available

AMENDED CLAIMS

Claims 1-15 (cancelled).

16. (Original) A transdermal patch, comprising

a pharmaceutical composition, which comprises:

a stabilized botulinum toxin; and

an enhancing agent that facilitates transdermal administration of the botulinum toxin in a bioactive form to a subdermal target site of a human patient without being administered to the patient's circulatory system; and

an adhesive disposed on one side of the transdermal patch to removably secure the patch to the patient's skin.

17. (Original) The transdermal patch of claim 16, wherein the adhesive is disposed around a depot containing the pharmaceutical composition.

18. (Original) The transdermal patch of claim 16, further comprising a plurality of needles extending from one side of the patch that is applied to the skin, wherein the needles extend from the patch to project through the stratum corneum of the skin without rupturing a blood vessel.

19. (Original) The transdermal patch of claim 18, wherein the botulinum toxin is provided in a depot in the patch so that pressure applied to the patch causes botulinum toxin to be directed through the needles and under the stratum corneum.

20. (Original) The transdermal patch of claim 16, wherein the botulinum toxin is provided in a dry state in a plurality of wells, each of the wells covered by a membrane that is dissolvable with a fluid, and wherein the enhancing agent mixes with the botulinum toxin as the

membrane over a well dissolves so that the absorption of the botulinum toxin is enhanced.

21. (Original) The transdermal patch of claim 16, wherein the botulinum toxin is botulinum toxin type A.

Claims 22-35 (cancelled).

IN THE CLAIMS

Applicant hereby cancels claims 1-15 and 22-35 without prejudice to further prosecution at a later date.